

# Macomb County Health Department Surface Water Improvement & Monitoring (SWIM) Team

#### Mission:

Monitoring, educational, investigatory and enforcement activities toward achieving the goal of all Macomb County recreational surface waters being in compliance with full body contact standards.

### Surface Water Sampling and Monitoring

- Water sampling at designated locations at public bathing beaches and surface water sites
- Follow established sampling protocols
- Evaluating the addition or deletion of monitoring sites



### MCHD Beach Program History

- Began monitoring bathing beaches in 1948
- Beaches were monitored for Total Coliform Bacteria
- 1967 Michigan Public Act 218 established Fecal Coliform Bacteria as the standard indicator bacteria for determining bathing water quality
- 1995 Escherichia coli became the indicator bacteria for bathing water quality

## Michigan Public Health Code (Act 368 of 1978, as amended)

333.12541 Testing and evaluating quality of water at bathing beaches open to public; purpose; injunction.

The local health officer or an authorized representative of the local health department having jurisdiction may test and otherwise evaluate the quality of water at bathing beaches open to the public to determine whether the water is safe for bathing purposes. If, based upon the standards prescribed by the rules promulgated under section 12544, the health officer or the authorized representative determines the water is unsafe for bathing, he/she may petition the circuit court of the county in which the beach is located for an injunction ordering the person owning or operating the bathing beach to close the beach for use by bathers or other measures that the court deems proper to keep persons from entering thereon. The court may grant an injunction if circumstances warrant it.

### Bathing Beach Water Quality Standards

### Michigan Public Health Code Part 125 Total Body Contact Standards

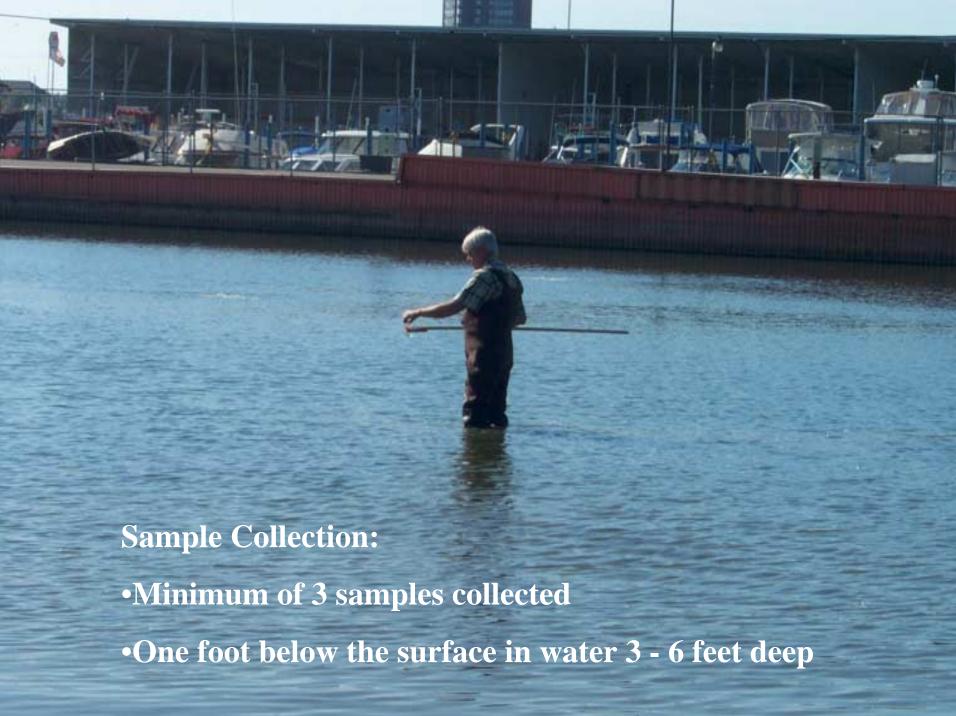
- 300 E. coli colonies per 100 milliliters, as a geometric mean of all samples collected at a beach during one sample event.
- 130 E. coli colonies per 100 milliliters, as a geometric mean of all samples collected over a 30-day period.

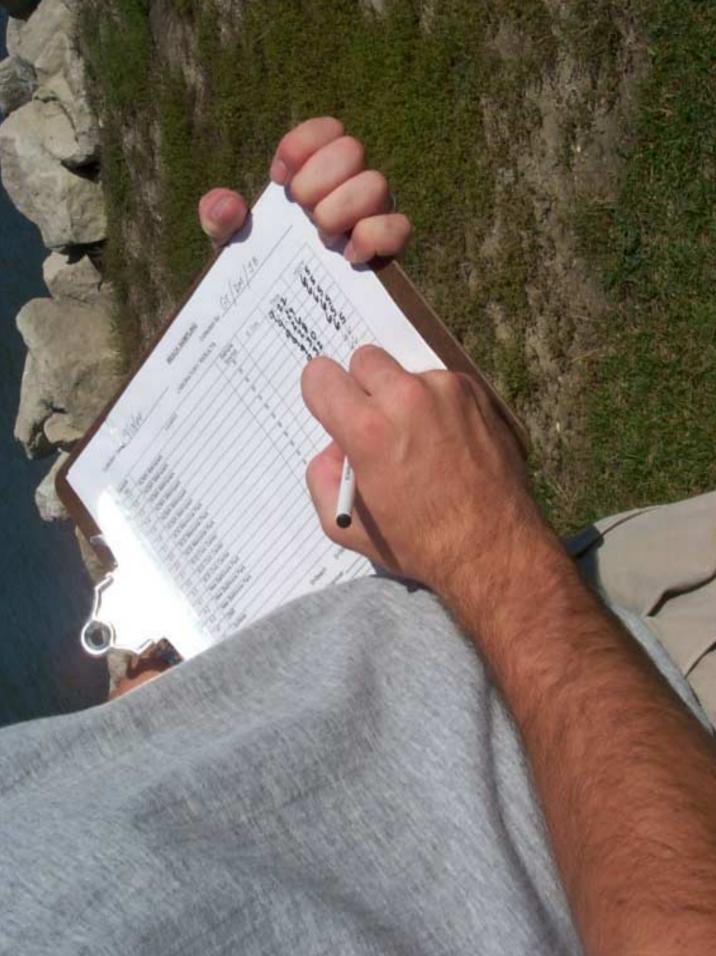
### Bathing Beach Monitoring Why test?

- To assure a safe and healthy recreational experience for the people who visit Macomb County beaches.
- Beach water samples are analyzed for Escherichia coli (E. coli) bacteria, which, in high numbers indicate that surface water contamination by sewage or other wastewater has occurred and that harmful bacteria may be present.

#### Bathing Beach Monitoring How is the Water Tested?

- Samples are routinely collected by MCHD staff twice weekly, mid-April - late September
- A minimum of 3 samples collected at each sampling event
- Samples are collected one foot below the surface in water that is between three - six feet in depth
- Samples are analyzed at the State Certified Martha T. Berry Medical Care Facility in Mt. Clemens, using the Idexx Colilert System for sample analysis









#### Sources of E. coli Bacteria

- Combined sewer overflows
- Sanitary sewer overflows
- Illegal connections to storm drains & roadside ditches
- Urban & agricultural runoff
- Malfunctioning onsite sewage treatment systems
- Wild & domestic animal waste

### Systematic Surveillance and Investigation to Locate Sources of Sewage Pollution with Emphasis on Neighborhood Wide and Community Wide Issues

- Investigation and onsite sewage system testing in areas where high bacteria levels are detected through sampling
- Physical surveys of streams for sewage connections
- Physical surveys of roadside ditches for evidence of sewage pollution
- Review of aerial flight records

#### Investigation of Complaints of Improper Sewage Disposal

- Centralize sewage disposal complaints
- Investigate and test
- Case documentation
- Violation notices and civil fines
- Referral to Prosecutors Office when compliance is not achieved within prescribed time
- Keep complainant informed of actions









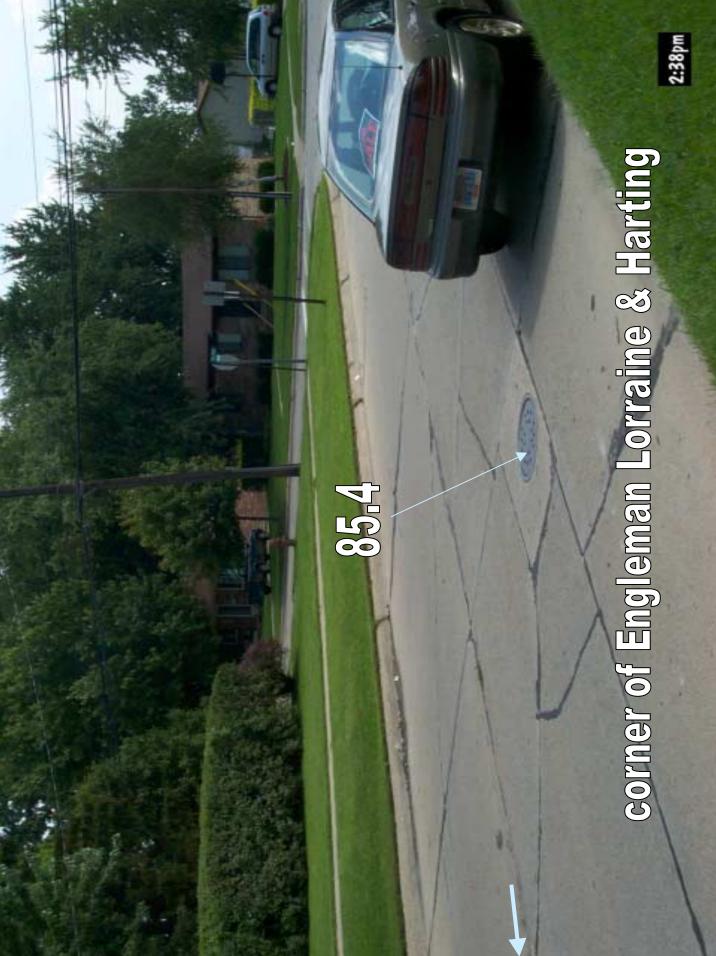
#### Surface Water Monitoring

 60 sites collected once per week throughout the Macomb County portion of the Clinton River Watershed

20 selected sites sampled in response to rainfall events

- Specialized investigative sampling
- Sites monitored for E. coli bacteria





### Surface Water Monitoring Use of Data

- Data is entered into a composited database
- Monitor water quality in tributaries to track pollution
- Review data for changes in bacteria from previous weeks
- Predict the occurrence of recreational water quality problems
- Identify trends that may require investigations
- Identify reduction in pollution levels resulting from corrective actions
- Information and data is shared with other agencies involved with water quality monitoring in the Clinton River Watershed.

### Maintenance of Macomb County Surface Water Quality Data Base

- Data Entry
- Analysis of data for trends and areas of interest
- Annual water quality reports
- Expand amount of data posted on Internet



### Sewage Disposal

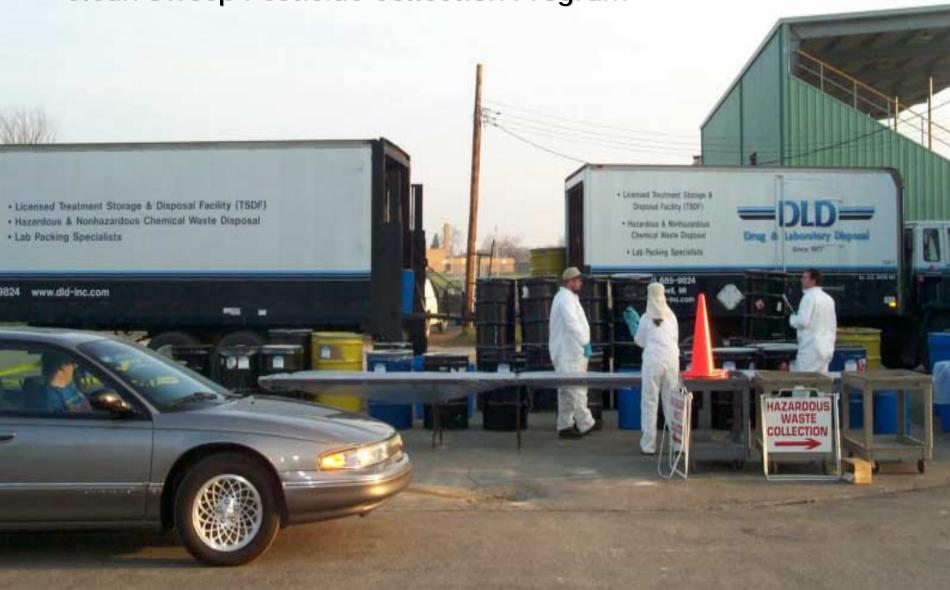
#### Statutory Authority:

- Regulations Governing Onsite Disposal of Sanitary Sewage and Human Excreta in Macomb County
- Act 368, P.A. 1978

A significant portion of Macomb County relies on on-site sewage treatment systems for sewage disposal. The Health Department evaluates proposed building sites, conducts soil evaluations, issues permits and inspects the systems. These services are provided for residential homes, commercial and industrial buildings.







#### Macomb County Health Department Household Hazardous Waste Collection



# Macomb County Marina Pollution Prevention Project



# Macomb County Health Department Water Quality Information on the web at www.libcoop.net/mchd

- Annual Surface Water Quality Report
- Blue Ribbon Commission Report on Lake St. Clair
- Beach Closing Notices
- Beach Testing Data
- Surface Water Quality Testing Data
- "Why Is the Beach Closed Today" Information



